



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,037	02/27/2004	Cenk Acar	UC1.PAU.48	8350
23386	7590	12/15/2005	EXAMINER	
MYERS DAWES ANDRAS & SHERMAN, LLP 19900 MACARTHUR BLVD., SUITE 1150 IRVINE, CA 92612			HANLEY, JOHN C	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/789,037	<b>Applicant(s)</b> ACAR ET AL.	
	<b>Examiner</b> John C. Hanley	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on 9/12/05. These drawings are approved.

### ***Claim Objections***

2. Applicant also did not address the use of the term "proof mass" to label all three masses, as indicated paragraph 4 of the prior office action. The use of the term appears to be contrary to convention, since the first and second masses do no do any sensing. Further, applicant loosely uses the term "mechanically decoupled" in such a way that it appears contrary to the language "three interconnected proof masses", which are mechanically coupled by the spring suspensions. See, for example, the use of the term "coupled" in claims 6, 7, 10, etc. More specificity is needed to be associated with the term "mechanically decoupled" in the claims.
3. Regarding claims 1 and 15, plural "sense mode oscillators" has no antecedent basis.
4. Regarding claims 2 and 16, "dynamical" is grammatically incorrect, and "the drive and sense directions" has no antecedent basis.
5. Regarding claim 3, "the Coriolis force" has no antecedent basis, and "larger Coriolis forces" is not compared or related to anything.
6. Regarding claim 4, there is no antecedent basis for the drive direction or the sense direction.

Art Unit: 2856

7. Regarding claim 5, there is no antecedent basis for the input angular rate.
8. Regarding claim 10, there is no antecedent basis for “the oscillations of the first mass”.
9. Regarding claim 13, there is no antecedent basis for “the isolated passive mass-spring system”.
10. Regarding claims 14 and 28, there is no antecedent basis for “the drive anti-resonant frequency” or the “sense anti-resonant frequency”, the “optimal system parameters”, or the “flexures” in plural instances.
11. Regarding claim 17, the first clause through line 6 has improper sentence structure.
12. Regarding claim 19, sentence structure needs correction. The vibration absorber and the input angular rate have no antecedent basis.
13. Regarding claim 22, there is no antecedent basis for the flat regions.

***Claim Rejections - 35 USC § 112***

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
15. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
16. Claims 1-28 recite a “nonresonant” device or a method of using a non-resonant device. The use of this term is unclear, especially in view of the

Art Unit: 2856

language on page 6, second paragraph, of the specification, and claims 11, 13, etc., which indicate resonant conditions.

17. There is no antecedent basis for “the vibration absorber” in claim 5, or “the isolated passive mass spring system...” of claim 13. Claim 8 needs the subject matter of claim 9 to make it definite and clear. Claim 17 is structurally unclear how the intermediate proof mass is intermediate. Applicant did not respond to these rejections made in paragraph 10 of the prior office action. Although applicant attempted a response to the claim 17 rejection, the response only addressed the written description, and not the claim language. The claim language does not address the structural layout in sufficient detail to be clear.

18. Regarding claims 1 and 15, it is unclear how the oscillators can be mechanically interconnected, yet mechanically decoupled.

19. Regarding claims 2 and 16, it is unclear what movement is amplified, to what element(s) the drive and sense directions refer, and what elements achieve “large oscillation amplitudes with without resonance”.

20. Regarding claim 3, “enlarged” is a vague and indefinite relative term with no relation recited. “Mechanically decoupled in the drive direction from the sense direction” is unclear for reasons previously stated, and because there is no antecedent basis for the drive and sense directions. The whereby clause is unclear how the advantages are associated with the recited elements, since the elements in the whereby clause have no antecedent basis or known relation to the recited elements.

Art Unit: 2856

21. Regarding claim 4 and 18, it is unclear whether the first two recited masses are the same or different, and/or how they are related to the three interconnected masses.

22. Regarding claims 5, 17 and 19, it is unclear how the second or intermediate mass generates a Coriolis force. It would appear to be responsive to a Coriolis force induced upon it. Also, it is the Coriolis force that causes oscillation in the sense direction, and not the other way around. It is also contrary to claim 13.

23. Regarding claim 6 and 20, the loose association of the numerous mass elements is vague and indefinite. It is unclear if all the recited masses are different or the same as other mentioned masses.

24. Regarding claims 9 and 23, it is unclear if each oscillator has both drive and sense direction frequencies that are matched with the same in the same in the other oscillator, or matched within each oscillator.

25. Regarding claims 10, 12, 14, 24, 26, and 28, the numerous loosely related masses are vague and indefinite. It is further unclear what vibrations are absorbed by the vibration absorbers of claims 10, 12, 24 and 26.

26. Regarding claims 11 and 25, it is structurally unclear how the passive mass-spring system provides support for the "moves to cancel out" functional language, and what is meant by "cancel out", since the input force is clearly directed in a way to move the second mass.

Art Unit: 2856

27. Regarding claims 13 and 27, it is unclear what structural element(s) "apply" the Coriolis force to the second mass, and or how the variable force that is a function of angular rate can be "matched".

28. Regarding claim 17, it is unclear if the intermediate mass is the same as one of the previous mentioned masses. It is unclear what larger is referring to in relative terms. Larger than what? Sensor sensitivity is vague and indefinite as to what the sensor is. The whereby clause is unclear how the advantages are associated with the recited elements, since the elements in the whereby clause have no antecedent basis or known relation to the recited elements.

### ***Conclusion***

29. The prior art made of record in the prior Office action and not relied upon is considered pertinent to applicant's disclosure. It has not been applied to the claims because of the difficulty in interpreting the claims. However, the use of three masses with dynamically amplified motion is clearly taught in at least one of the references, as previously indicated.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Hanley whose telephone number is 571-272-2195. The examiner can normally be reached on M-F 9AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCH

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800